1014-M1-965   **Thomas W Polaski*** (`polaskit@winthrop.edu`), Department of Mathematics, Winthrop
University, Rock Hill, SC 29733. *Baseball Decision-Making with Markov Chain Models.*

Very often, a baseball game comes down to a fateful decision by the manager of one of the teams: whether to attempt a steal, whether to sacrifice, whether to walk a player intentionally. In this paper, we show how to make these decisions by using a simple Markov chain model for offensive action in the game of baseball. The states of the chain correspond to the game situation, while the transition probabilities are calculated from given data on a hitter, team or league. We may calculate the expected number of runs which a team would score given which strategy the manager decides to employ. By altering the absorbing states of the chain, we may also calculate the probability that at least one run scores given the manager's strategy. (Received September 26, 2005)